

Mississippi Artificial Reef Habitat Project

2018 Annual Report

PROJECT SUMMARY

The Mississippi Artificial Reef Habitat project deployed 29,000 cubic yards of cultch material (limestone) on 47 nearshore artificial reefs in the marine waters of Mississippi. This project provided valuable habitat for small crustaceans and mollusks, as well as juvenile shrimp, crab and oysters by restoring nearshore artificial reefs. A final close-out report, which includes a map of the restored artificial reefs, has been completed and is available under the Documents Section.

Trustee Implementation Group(s)	Mississippi
Implementing Trustee(s)	Mississippi Department of Environmental Quality (MS DEQ)
Restoration Type(s)	Oysters
Project Status	Complete
Restoration Phase	Early Restoration Phase 1
Multiple Component Project?	No
General Location(s)	Mississippi

KEY PHOTO



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Portal ID: 7

This report represents the status of the project as of Dec 31st, 2018.

BUDGET SUMMARY

		Mississippi TIG
		MS DEQ
Oysters	Authorized Budget	\$ 2,600,000.00
	Funds Received	\$ 2,350,000.00
	Expended	\$ 2,053,176.04
	Funds Received Balance Remaining	\$ 296,823.96
Project Totals	Authorized Budget	\$ 2,600,000.00
	Funds Received	\$ 2,350,000.00
	Expended	\$ 2,053,176.04
	Funds Received Balance Remaining	\$ 296,823.96

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PROJECT DETAILS

General Activity Description

Cultch deployment was completed in 2013. Annual monitoring, using basket and tray methodology, was conducted in 2014 and 2015 to measure the secondary productivity benefits associated with the artificial reef project. Metrics include epifauna and infauna biomass, secondary productivity, density, and species diversity and composition. Monitoring is complete and the final report is complete. A final close-out report has been completed and is available under the Documents Section.

Project Activity Time Frame

Approximate Construction Start Nov-2012

Approximate Construction Duration 6 - 12 months

Planning Activities

Activity	Description	Status	Approx. Start	Date Completed
Permitting and Consultations	The U.S. Army Corps of Engineers issued a Nationwide Permit 4 (SAM-01777-SPG) authorizing cultch deployment on nearshore reefs for Spring 2013.	Complete	Sep-2012	Feb-2013
Permitting and Consultations	Section 106 of the National Historic Preservation Act consultation was conducted.	Complete	Aug-2012	Sep-2012

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Execution Activities

Activity	Description	Status	Approx. Start	Date Completed
Construction	Cultch material was deployed at 42 reef locations in three coastal counties, which completed the construction phase of the Mississippi Artificial Reef Habitat project.	Complete	Mar-2013	Jun-2013
Construction	Fall 2012 deployment was conducted on 5 reefs in Jackson County, Mississippi.	Complete	Nov-2012	Nov-2012
Public Submittal of Bid Packages and Contract Award	A contract was awarded to deploy approximately 100 acres of cultch in up to 67 sites within the Mississippi Sound.	Complete	Aug-2012	Oct-2012

PROJECT DETAILS

Activity	Description	Status	Approx. Start	Date Completed
Monitoring	Final Artifical Reef Report submitted	Complete	Jan-2016	Jan-2017
Monitoring	Year 3 (2016) Artificial Reef Monitoring Progress Report - report of summary of data analysis progress	Complete	Jan-2016	Jan-2017
Monitoring	2015 status report submitted	Complete	Dec-2015	Jan-2016
Monitoring	Year 2 (2015) Artificial Reef Monitoring Progress Report	Complete	Jan-2015	Jan-2016
Monitoring	Year 1 (2014) Artificial Reef Monitoring Progress Report	Complete	May-2014	Aug-2015
Monitoring	Field collection for 2015 monitoring event	Complete	May-2015	Jun-2015
Monitoring	Field Collection for 2014 monitoring event	Complete	May-2014	Jul-2014
Monitoring	Long-term monitoring plans designed and monitoring sites designed.	Complete	Apr-2013	Dec-2013

Habitat Footprints

Date Completed	Type of Habitat	Total Habitat	Action Type	Description
03-01-2013	Hard Bottom	100 Acres	Enhanced	100 acres of crushed limestone was added to 47 existing reef areas or hard substrate habitats.

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As-Built

As-Built	Parameters	Date Completed	Comments
Artificial Reef	Count	47	In November 2012, 4,000 cubic yards of cultch were deployed. Another 25,000 cubic yards were deployed in March 2013.
	New/Existing	Existing	
	Type	limestone	

Monitoring Overview

Monitoring Framework	N/A
Restoration Objectives	1) Create or enhance existing nearshore artificial reefs that are sustained for the expected lifespan of the project; 2) Promote habitat utilization of reefs by mobile and sessile invertebrate infauna and epifauna
Comments	No comments available for this section

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Benthic Epifauna/Infauna Sampling Monitoring Activity

Monitoring Parameters

Parameter	Info	Approx Start Date	Approx End Date	Frequency	Comments
Biomass	g wet weight/m2	05/01/2014	06/29/2015	Once per year - Two total events	

Performance Criteria

Target	Target Date	Target Achieved?	Comments
At year 2, the biomass of the non-bivalve epifauna and infauna on the reef should be at least 84g ww/m2	06/29/2015	No	Hypoxia event late June 2015 in Mississippi Sound
At year 1, the biomass of the non-bivalve epifauna and infauna on the reef should be at least 84g ww/m2	07/08/2014	Yes	

Monitoring Parameters

Parameter	Info	Approx Start Date	Approx End Date	Frequency	Comments
Density	# per m2	05/01/2014	06/29/2015	Once per year - Two total events	Supplemental biologic profile

Performance Criteria

No performance criteria currently available for this parameter

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Benthic Epifauna/Infauna Sampling Monitoring Activity

Monitoring Parameters

Parameter	Info	Approx Start Date	Approx End Date	Frequency	Comments
Productivity	ash free dry weight /day/m2	05/01/2014	06/29/2015	Once per year - Two total events	Supplemental biologic profile

Performance Criteria

No performance criteria currently available for this parameter

Monitoring Parameters

Parameter	Info	Approx Start Date	Approx End Date	Frequency	Comments
Species composition/diversity	# species/m2	05/01/2014	05/15/2015	Once per year - two total events	Supplemental biologic profile

Performance Criteria

No performance criteria currently available for this parameter

PROJECT DETAILS

Monitoring Parameters

Performance Criteria

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Monitoring Documents/Data

Monitoring Document	Date Submitted	Document Type	Description
Artificial Reef 2014 Baskets Summary	12-22-2017	Monitoring Data	Artificial Reef 2014 Secondary Productivity Basket Summary Data
Artificial Reef 2015 Baskets Summary	12-22-2017	Monitoring Data	Artificial Reef 2015 Secondary Productivity Baskets Summary Data
Artificial Reef Data Spring 2014 - Tray	12-22-2017	Monitoring Data	Artificial Reef Secondary Productivity Data Spring 2014 Trays
Artificial Reef Data Spring 2015 - Tray	12-22-2017	Monitoring Data	Artificial Reef Secondary Productivity Data Spring 2015 Trays
Artificial Reef Spring 2014 Results - Baskets	12-22-2017	Monitoring Data	Artificial Reef Spring 2014 Secondary Productivity Results - Baskets
Artificial Reef Spring 2015 Results - Baskets	12-22-2017	Monitoring Data	Artificial Reef Spring 2015 Secondary Productivity Data Results-Baskets
Artificial Reef Monitoring Final Report Form GCRL 2017	12-22-2017	Final Monitoring and Adaptive Management Report	Mississippi Artificial Reefs Monitoring Final Report 2017
Monitoring Progress Report Mississippi Artificial Reef Habitat Project	09-20-2016	Interim Monitoring and Adaptive Management Progress Report	Mississippi Artificial Reef Year 1 (2014) Annual Monitoring Progress Report Form
Monitoring Progress Report Year 2 (2015) Mississippi Artificial Reef Habitat Early Restoration Project	12-22-2017	Interim Monitoring and Adaptive Management Progress Report	Mississippi Artificial Reef Year 2 (2015) Annual Monitoring Progress Report Form
Monitoring Progress Report Year 3 (2016) Mississippi Artificial Reef Habitat Early Restoration Project	12-22-2017	Interim Monitoring and Adaptive Management Progress Report	Mississippi Artificial Reef Year 3 (2016) Annual Monitoring Progress Report Form

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Monitoring Documents/Data

Monitoring Document	Date Submitted	Document Type	Description
MS DEQ Artificial Reefs Monitoring Plan May 2015 Final.pdf	09-20-2016	Monitoring and Adaptive Management Plan	Mississippi Early Restoration Phase 1 Artificial Reef Monitoring Plan May 2015 Final
MS ER Artificial Reef_Deployment and Monitoring Sites Final.pdf	09-20-2016	Interim Monitoring and Adaptive Management Progress Report	Mississippi Early Restoration Round 1 Artificial Reef Deployment and Monitoring Sites Maps uploaded January 2015

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Environmental Compliance

Regulatory Requirement	Lead Agency	Status	Documents
Bald and Golden Eagle Protection Act (USFWS)		N/A	
Coastal Barrier Resources Act (USFWS)		N/A	
Coastal Zone Management Act	National Oceanic and Atmospheric Administration (NOAA)	Complete	Letter from MS DMR to NOAA OGC Re: DMR-120259; Draft Phase 1 Early Restoration Plan and Environmental Assessment (Phase 1 DERP) [CZMA Consistency Determination] (March 9, 2012)
Endangered Species Act (NMFS)	National Oceanic and Atmospheric Administration (NOAA)	Complete	Letter from NOAA NMFS to NOAA RC Center Re: Deepwater Horizon Oil Spill Draft Phase 1 Early Restoration Plan [ESA Section 7 Consultation Response] (April 2, 2012)
Endangered Species Act (USFWS)	Department of the Interior (DOI)	Complete	Mississippi Artificial Reef Project [ESA Section 7 Consultation Initiation and Response] (February 9, 2012)
Essential Fish Habitat (NMFS)	National Oceanic and Atmospheric Administration (NOAA)	Complete	Memorandum from NOAA NMFS to NOAA RC Re: Essential Fish Habitat (EFH) review of the Phase I Early Restoration Projects [EFH Consultation Response] (February 14, 2012)
Marine Mammal Protection Act (NMFS)		N/A	
Marine Mammal Protection Act (USFWS)		N/A	
Migratory Bird Treaty Act (USFWS)		N/A	

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Environmental Compliance

Regulatory Requirement	Lead Agency	Status	Documents
National Environmental Policy Act	Department of the Interior (DOI)	Complete	Deepwater Horizon Oil Spill Phase I Early Restoration Plan and Environmental Assessment. (April 16, 2012)
National Historic Preservation Act	Department of the Interior (DOI)	Complete	Email correspondence regarding Section 106 Consultation [Section 106 Compliance Determination] Procedure for requesting information regarding compliance with Section 106 of the National Historic Preservation Act
Rivers and Harbors Act/Clean Water Act		N/A	



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PROJECT CONTACTS

Name	Title	Organization	Phone	Email	Location	Project Role(s)
Chris Wells	Chief of Staff	Mississippi Department of Environmental Quality (MS DEQ)	(601) 961-5545	cwells@mdeq.ms.gov	Jackson, MS	